

CLAIMS

1. Apparatus for enhancing solubility of a solute in a solvent, the apparatus comprising a solvent and/or solute inlet having a fluidising unit which creates a vortex in the solvent and/or solute.
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2. Apparatus as claimed in claim 1, in which a fluid interfacial or boundary layer exists within the vortex where enhanced mass transfer, or dissolution of solute into the solvent takes place.
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3. Apparatus as claimed in claim 1, in which the solute is leached from a carrier ore.
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4. Apparatus as claimed in claim 3, in which means are provided to achieve at least two stages of leaching, targeted at different solutes to be dissolved in different solvents.
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5. Apparatus as claimed in claim 1, in which the solute is salt and the solvent is water.
6. Apparatus as claimed in claim 1, in which the solute is an edible or potable solute for use in a solution for the food and brewing industry.
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7. Apparatus as claimed in claim 1, for use in accelerated malting of materials for the brewing industry.
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8. Apparatus as claimed in claim 1, for accelerated dissolving of sugars, glucoses or other materials such as cola nuts for use in the soft drinks industry.

5 9. Apparatus as claimed in claim 1, for pressurised rapid wetting of seeds prior to sowing, to acceleration germination and growth.

10. Apparatus as claimed in claim 1, for pressurised treatment of seeds with fungicides, nutrients, fertilisers and/or pesticides prior to sowing.

11. Apparatus as claimed in any one of the preceding claims, in which the fluidising unit operates on a continuous flow of solvent and/or solute.

15 12. Apparatus substantially as described herein, with reference to and as shown in the accompanying drawings.